REMARKS

Reconsideration of the above-identified patent application in view of the amendments above and the remarks following is respectfully requested.

Claims 1-42, 52-54 and 69-83 are in this case. Claims 1-4, 11, 35-37, 39-42, 53, 54, 69-74, 78 and 82 have been rejected under § 102(e). Claims 5-10, 12-16, 38 and 52 have been objected to. Claims 17-34, 75-77, 79-81 and 83 have been allowed. Claims 5, 12, 14, 38 and 52 have been canceled. Dependent claims 6, 7, 13, 15, 16 and 40 have been amended. New claims 84-88 have been added.

The claims before the Examiner are directed towards methods of diminishing the effects of optical defects during real time use of an optical device. An optical part of the device is rotated during the use of the device to spread and blur the defects. The optical part may be a rotation-variant optical element that is used to spread and blur defects in light projected from a light source.

For an optical part that has an optical axis, the invention also includes a method of aligning the optical axis with the rotation axis and a method of stabilizing the position of the optical axis. The optical axis is aligned with the rotation axis by holding the optical part at two or more points of a peripheral structure that correspond to points of projection on the optical axis and moving the peripheral structure so as to move the points of projection towards the rotation axis. Once the two axes are aligned, the rotation of the optical part stabilizes the position of the optical axis by a gyro effect.

§ 102(e) Rejections – Chen '548

The Examiner has rejected claims 1-4, 11, 35-37, 39-42, 53, 54, 69-74, 78 and 82 under § 102(e) as being anticipated by Chen, US Patent No. 6,091,548 (henceforth, "Chen '548"). The Examiner's rejection is respectfully traversed.

Chen '548 teaches a dynamic aberration corrector that includes astigmatism-correcting rotational drive **112** for rotating lenses **60**, **66** and **72**, and also coma-correcting rotational drive **114** for rotating lenses **78** and **84**.

There are two principle differences between the teachings of Chen '548 and the present invention, as recited in independent claims 1, 37, 53, 78 and 82, that render the present invention patentable over Chen '548.

The first difference is that Chen '548 does not rotate his lenses in "real time", as that term is understood in the above-identified patent application. "Real time", as understood in the above-identified patent application, means while an image is being viewed or projected. See for example the paragraph starting on page 38 line 29:

> For rotation speed synchronous with the exposure time of a viewing or projecting mechanism, a constant angular rotation speed is used such that an exact whole number of rotations are completed during the exposure time of recording an image. Synchronization of the rotation speed with the exposure time causes optical defects and deviations of the at least one optical part of the optical device to be perfectly spread and blurred over a full 360 degrees circle, thereby achieving circular symmetry with respect to optical defects and deviations of the at least one optical part of the optical device during real time viewing or projecting. Although any whole number of rotations can be completed by the optical rotation device during the exposure time, preferably, one exact rotation is completed during the exposure time of recording each image, thereby limiting the speed as much as possible for purposes of stability of the at least one optical part of the optical device being rotated, of the optical device, and of the optical rotation device. (emphasis added)

By contrast, Chen '548 rotates his lenses in-between exposures, as described in the paragraph beginning in column 6 line 66:

> When the optical system **22** is placed into service, numeral **126**, the operator points the telescope **28** and thence the sensor **50** in a selected direction, establishing values of θ and ϕ, numeral **128**. The values of the settings of the dynamic corrector **48**, for the selected values of θ and ϕ are looked up in the computer, numeral **124**, and supplied to the dynamic corrector **48**, numeral **130**. The dynamic corrector **48** adjusts the drives to these settings. The sensor thereafter observes the scene through the static corrector **44** and the dynamic corrector **48** to achieve optimal reduction of aberration. If either θ or ϕ is changed by re-aiming the pointing angle of the sensor, the dynamic corrector **48** is adjusted to the settings corresponding to these new pointing angles. (emphasis added)

The second difference is a consequence of the first difference. Because Chen '548 rotates his lenses only between exposures, Chen '548 does not spread and blur any optical defects or deviations present in his lenses. By contrast, because the present invention rotates optical parts of the optical device of the present invention during viewing or projecting, the optical defects and deviations present in the optical parts are spread and blurred.

Thus, independent claims 1, 37, 53, 78 and 82 are not anticipated by Chen '548. Furthermore, the present invention is not even obvious from Chen '548. There is neither a hint nor a suggestion in Chen '548 of any utility to rotating the lenses of the dynamic aberration corrector during exposure. With independent claim 1 and 37 allowable in their present form, it follows that claims 2-4, 11, 39-42, 54 and 69-74, that depend therefrom, also are allowable.

Turning now to independent claim 35, this claim recites a method of aligning the optical axis of an optical part with the rotation axis of an optical rotation device. Chen '548 is totally silent on this subject. The "optical parts" of Chen '548 are lenses **60**, **66**, **72**, **78** and **84**. The "optical rotation devices" of Chen '548 are rotational drives **112** and **114**. It is implicitly assumed in Chen '548 that the rotational axis of drive **112** is aligned with the optical axes of lenses **60**, **66** and **72**, and that the rotational axis of drive **114** is aligned with the optical axes of lenses **78** and **84**. There

is neither a hint nor a suggestion in Chen '548 of what to do if the rotational axes and the optical axes are not aligned.

Therefore, far from being anticipated by Chen '548, independent claim 35 is not even obvious from Chen '548. With independent claim 35 allowable in its present form, it follows that claim 36, that depends therefrom, also is allowable.

Objections

The Examiner has objected to claims 5-10, 12-16, 38 and 52 as being based on rejected base claims. The Examiner has noted that claims 5-10, 12-16, 38 and 52 would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claim.

New claim 84 is claim 5 rewritten in independent form. Correspondingly, claim 5 has been canceled and claims 6 and 7 have been amended to depend from claim 84.

New claim 85 is claim 12 rewritten in independent form. Correspondingly, claim 12 has been canceled and claim 13 has been amended to depend from claim 85.

New claim 86 is claim 14 rewritten in independent form. Correspondingly, claim 14 has been canceled and claims 15 and 16 have been amended to depend from claim 86.

New claim 87 is claim 38 rewritten in independent form. Correspondingly, claim 38 has been canceled.

New claim 88 is claim 52 rewritten in independent form. Correspondingly, claim 52 has been canceled.

Other Amendments to the Claims

Claim 40 has been amended to correct an inadvertent typographical error.

In view of the above amendments and remarks it is respectfully submitted that independent claims 1, 17, 35, 37, 53, and 75-88, and hence dependent claims 2-4, 6-11, 13, 15, 16, 18-34, 36, 39-42, 54 and 69-74 are in condition for allowance. Prompt notice of allowance is respectfully and earnestly solicited.

Respectfully submitted,

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Date: January 19, 2004